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ABSTRACT

In an experiment studying the relationship between reciprocity and compensation in dyadic communication, 96 male college students were videotaped during hypothetical problem solving situations. An attitude scale was used to manipulate subjects' impressions of mutual similarity. Time was used to test development in the dependent variables confirmation, disconfirmation, and looking/mutual gaze behaviors. The results showed that verbal confirmation and disconfirmation were reciprocal; that verbal confirmation and gaze were slightly but positively and significantly related; and that reciprocity (on verbal confirmation) and compensation (on gaze) could be concurrent. The findings also revealed that dyads with similar attitudes did not confirm more than dyads with dissimilar attitudes; conversely, dyads with dissimilar attitudes did not disconfirm more than dyads with similar attitudes. Subject behavior in the dissimilar attitudes condition showed significantly more mutual gaze. In contrast with previous studies, gaze seemed to communicate challenge rather than liking. It was suggested that compensation be seen as agency and reciprocity as communion. (RL)

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THE EFFECT OF PERCEIVED SIMILARITY/DISSIMILARITY ON CONFIRMATION/DISCONFIRMATION BEHAVIORS: RECIPROCITY OR COMPENSATION?

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THE EFFECT OF PERCEIVED SIMILARITY/DISSIMILARITY ON CONFIRMATION/DISCONFIRMATION BEHAVIORS: RECIPROCITY OR COMPENSATION?

This study focuses on the contradiction that arises from the concurrent postulation of the concepts reciprocity and compensation. To this end, the theoretical nature of this conceptual dilemma will be described. Then, the concept of confirmation/disconfirmation, used to investigate reciprocity and compensation, will be introduced. Finally, the use of Similarity/Dissimilarity to heighten confirmation and disconfirmation will be explained. Research questions and hypotheses will be presented throughout, as they arise.

Reciprocity and Compensation

Interpersonal distancing refers to approach or withdrawal along proxemic (nonverbal), kinesic, paralinguistic, and linguistic modalities (Kaplan, 1975). Its study has advanced along two separate lines: proxemic modalities, and verbal communication. In two comprehensive and recent reviews of the literature, the proxemic (Patterson, 1973) and the verbal (Cozby, 1973), are almost completely mutually exclusive in reference citations (Firestone, 1977).

Compensation. The dominant model in proxemic research has been Argyle and Dean's (1965) "distance equilibrium." Each person has his own intimacy equilibrium level, which is a function of different modalities. These include interaction proximity, amount of touching, mutual gaze, directness of body orientation, forwardness of body lean, vocal amplitude, intimacy of verbal disclosure, and amount of such disclosure (Kaplan, 1975), to which may be added amount of smiling, head nods, and self manipulation (Firestone, 1977). In Argyle and Dean's (1965) "Affiliative Conflict" theory this equilibrium level is a resolution of approach and avoidance tendencies. The closer a person approaches another the more is the affiliative need satisfied; but if approach

is beyond the equilibrium (e.g., standing too close, or having too much eye contact), anxiety is aroused (Miller, 1944). When the deviation from equilibrium is in the opposite direction (e.g., standing too far, or too little eye contact), the person will feel deprived of affiliative satisfaction. In either case, if equilibrium is disturbed on one modality, adjustments will be made on the other modality (or modalities) to restore equilibrium. Excessive approach will cause withdrawal, and excessive withdrawal will cause approach.

Reciprocity. Research on verbal intimacy was stimulated by Jourard's description of the "dyadic effect" in self-disclosure (1959, 1971). The dominant principle here has been the "norm of reciprocity" (Gouldner, 1960). This model suggests that breadth (number of topics) and depth (relative intimacy) of communication covary between partners in interaction, and that mutuality governs output. Increase in disclosure by one partner exerts pressure on the other partner to match the disclosure level of the first. Whether this pressure is explained as "social attraction" or as "commodity exchange" (Cozby, 1973), the model predicts that approach triggers approach and withdrawal causes withdrawal.

The dilemma. The reviews mentioned (Patterson, 1973; Cozby, 1973) and subsequent studies amply document evidence supporting the two principles: compensation generally governs proxemic (nonverbal) distancing, and reciprocity governs verbal distancing in social relations. [But see Firestone, 1977 for a number of deviant studies.] The two principles are diametrically opposed and seem incompatible. Compensation is a static model, with a constant equilibrium, and it cannot account for development or decay in a relationship. Reciprocity is dynamic, but disclosure might according to this principle fluctuate aimlessly, depending only on the dominant participant; it does not account for stability in a relationship. Compensation is a see-saw, reciprocity a spiral; it seems

reasonable to common sense that neither alone can explain the behavior of intimacy, but can they operate together? Can it be that simultaneous behaviors (i.e., verbal and nonverbal) are governed by two such opposing principles?

Several studies attempted to reconcile compensation and reciprocity (Firestone, 1977) by attraction mediation (Derlega, Harris & Chaikin, 1973; Firestone, Kaplan, & Sodikoff, 1974; Klein, Kaplan, & Firestone, 1975; Rubin, 1973, 1975). This model posits that if changes of intimacy lead to increased attraction, further distance-reducing behaviors may follow (reciprocity); and if intimacy changes lead to decreased attraction, distance will be increased by withdrawal (compensation; Klein et al, 1975). Each of these studies obtained evidence for verbal reciprocity, but did not find any enhancement in intent to disclose or actual disclosure attributable to liking.

Cozby (1973) tested whether "liking and trust" (social attraction) or the "reciprocity norm" (commodity exchange) controls reciprocation. While results have generally been interpreted in terms of "liking and trust," Cozby states that both processes operate, and that his experiments cannot be seen as a refutation of Argyle and Dean's (1965) model.

Patterson (1976) suggests an arousal model of intimacy. Changes in a person's intimacy behaviors precipitate arousal in the other person. The arousal change may be labeled a positive or a negative emotional state. The model predicts that positively labeled states facilitate reciprocal reactions, while negatively labeled states facilitate compensatory reactions (p. 253). Patterson concludes the difference may come from differential availability of these two modes to awareness, but that it is difficult at present to assess the role of awareness in expression of intimacy (p. 243).

Thus, the issue of reciprocity vs. compensation remains unresolved. The concept of confirmation/disconfirmation was selected as a means for obtaining greater understanding of these theoretical positions. It is recognized that confirmation/disconfirmation is not completely isomorphic with self disclosure or nonverbal communication. Nevertheless, they all share elements in common and are relevant to the study of intimacy. It is therefore posited that:

Hypothesis I: There will be a significant positive correlation between verbal confirmation scores of dyad partners (reciprocity); and

Hypothesis II: There will be a significant positive correlation between verbal disconfirmation scores of dyad partners (reciprocity).

In a great number of verbal intimacy studies self-disclosure has been employed as a dependent variable; in the present study, confirmation/disconfirmation is used instead, for two reasons: (1) reciprocity is theoretically expected to occur in confirmation, as suggested, for example, by Buber (1957, 1970); and (2) confirmation/disconfirmation occurs much more frequently than self-disclosure in everyday life, and has therefore a very pragmatic bearing on interpersonal relationship. Any viable relationship requires mutuality of relational definitions (Morton, Alexander, & Altman, 1976). No such definition is possible without confirmation. Confirmation on its three levels (existence, experience, and relationship, explained soon) is a pre-requisite for self-disclosure. The concept is introduced in the following paragraphs.

Confirmation/Disconfirmation

Confirmation is essential for interpersonal relationship and has therefore been advocated and studied in philosophy (Buber, 1957), Psychiatry (Ruesch,

1957, 1961; Laing, 1961, 1965, 1969; Watzlawick, Beavin, & Jackson, 1967), psychology (Maslow, 1954; Rogers, 1957a, 1957b, 1961, 1965, 1969, 1970), as well as anthropology (Hall, 1966), religion (Buber, 1970; Boman, 1960), and communication (Barnlund, 1968; Giffin, 1970, 1971; Gibb, 1961; Sieburg, 1969, 1972, 1973a, 1973b, 1976; Sundell, 1972; Clark, 1973; Jacobs, 1973; Cissna & Keating, 1979).

Confirmation is defined as any behavior which (1) validates the other's existence, (2) validates his experience, and (3) indicates agreement or willingness to be in a relationship (Sieburg, 1973a). These are hierarchical levels, level 1 being a precondition for 2, and 2 for 3. Confirmation is satisfying because it affirms the receiver's self-experience, and disconfirmation is painful because it denies or negates a person's need to have his self-experience affirmed by others. Awareness, recognition-acceptance, and affiliation are ascending in the hierarchy of confirmation, while indifference, disqualifying (inhibiting), and imperviousness signify increasing disconfirmation. Building on Sieburg, Jacobs (1973, pp. 28-29) provides the paradigm of confirmation and its behavioral indicators, arranged in six categories: (1) affiliation, (2) disaffiliation, (3) furthering, (4) non-furthering (3 and 4 so named because of their effect on communication), (5) inhibiting, and (6) imperviousness. Awareness has been collapsed into non-futhering.

Before approaching the hypotheses presented in this study, a brief summary of previous findings in confirmation/disconfirmation and mention of the idea of similarity/dissimilarity as related to confirmation seems to be in order.

Sieburg (1969) found that effective known groups used significantly fewer disconfirming responses than ineffective ones. Clark (1973) studied the effects of confirmation, self-disclosure and accuracy of interpersonal perception on satisfaction and attraction in marital dyads. Confirmation accounted for a greater part of the variance than any other viable tested (43 to 53%, depending on length of relationship). Sundell (1972) demonstrated reciprocity in student-teacher confirmation: when the teachers were confirming, students tended to be confirming; when teachers were disconfirming, students tended to be disconfirming. Jacobs (1973) varied the confirmation of confederates in interviews and found subjects discriminated not only between confirming and disconfirming, but also between six different categories of confirmation and disconfirmation. Their satisfaction with the task, their performance, and the interview experience, differed significantly. In sum, confirmation can be recognized, it is reciprocal, and it is interpersonally satisfying.

Common sense dictates that we confirm people we like more than those we dislike; similarly, that we are attracted more to people who are similar to us than to those who are dissimilar. It should follow that we confirm more those who are similar to us than those who are dissimilar.

Similarity/Dissimilarity

Byrne (1961, 1971) has shown that we like people with similar attitudes (SA) to ours (on important issues) more than we like those with dissimilar values and attitudes (DA). This outcome has since been replicated by Byrne and others many times (Byrne, 1962; Byrne & Nelson, 1965; Byrne, 1969; Clore & Byrne, 1974).

Of interest here is the fact that all attraction studies using the Byrne paradigm rely on the reinforcement model for a theory of attraction. For example, in his first study of the subject Byrne (1961) took off from Newcomb's (1956) proposition that attraction is a function of reciprocal rewards in the

interaction, liking being seen as a reward and dislike as a punishment. When another person validates our perception of reality (confirms its being logical), it constitutes a reward and contributed to a positive relationship; and when dissimilarity is indicated (other's notions are different from ours), it constitutes a punishment and contributes to a negative relationship.

As will be recalled from previous discussion, confirmation theory also utilizes the reinforcement model as a basic construct. Similarity of attitudes, opinions, abilities, personality characteristics, economic class, or whatever, is seen as reinforcing. This view is in accord with Festinger's (1954) social comparison theory, and with Dollard and Miller's conflict theory (1950). In terms of the latter, similarity arouses an approach tendency (liking), while dissimilarity elicits withdrawal (dislike). Another individual's response functions as a positive reinforcement or reward when similar to ours, and as a negative reinforcement or punishment when dissimilar. The former, because it confirms our view of the world, the latter because it negates or denies it. The common application of reinforcement for both attraction and confirmation indicates the appropriateness of the similarity/dissimilarity variable for this study.

On the basis of this discussion of the similarity-attraction relationship, the following hypotheses were posited:

Hypothesis III: There will be more confirmation in the Similar Attitudes (SA) group than in the Different Attitudes (DA) group.

Hypothesis IV: There will be more disconfirmation in the DA group than in the SA group.

Confirmation is largely verbal, but includes nonverbal behaviors (e.g., looking, body orientation and body lean, head nods and shakes etc.). Only looking was studied, because of its salience as an index of intimacy in social

interaction (Argyle, 1969; Argyle & Cook, 1976; Cook, 1977). As in the bulk of previous research, the assumption was that looking indicates approach (confirmation), and gaze aversion or gaze denial--withdrawal (i.e., nonverbal disconfirmation). With that in mind, it can be posited that:

Hypothesis V: There will be more gaze and mutual gaze under SA than under DA.

In light of the preceding discussion of compensation and reciprocity, the following research questions were asked:

1. What is the relationship between gaze and verbal confirmation?
2. Can reciprocity and compensation co-occur?

Methods and Procedure

Subjects and Design

Subjects were 96 volunteer male graduate and undergraduate students enrolled in social science courses. A 2 x 3 factorial design with repeated measures was employed (two conditions: Similar Attitudes [SA] and Different Attitudes [DA], by Time: [1, 2, and 3]). Measures were recorded in minute intervals, and three different intervals were analyzed for each subject.

Manipulation and Task

Subjects completed the Attitude Scale (adapted from Byrne, 1961), which was then collected and replaced by the New History Teacher problem. The Scale consisted of 14 items (statements) considered relevant to the late seventies (Byrne had 26 items, some of which were used in the present study). Subjects responded to the issue in the statement by choosing one of seven points, ranging from "I am very much in favor of," through "I have no opinion on this issue," to "I am very much against." Issues of the Scale statements concerned, for example, belief in God, petting and necking, busing, premarital sex, and money.

The New History Teacher problem ambiguously describes several candidates for the position of history teacher in a high school. Candidates' description is in terms of controversial values (e.g., religious affiliation, political orientation, sexual preference, etc.), intended to heighten the salience of Ss beliefs and attitudes, and may arouse acute cognitive dissonance: the need to choose between a brilliant teacher who is also an atheist, and an outstanding scholar who is also homosexual, may be disquieting and lead to some heated discussion.

While subjects studied the problem (individually) the researcher prepared bogus copies of the Attitude Scale for the similarity of attitudes manipulation. After the Ss had solved the problem each reported his solution to the E. Each S was then given a copy of the Attitude Scale, supposedly completed by his partner, but actually fabricated by the E. The scale resembled that of the S's very much (similar choices, within two scale points in the same direction from the mid-point, on about 85% of the statements) for half the sample, and differed from it a great deal (within two points in the opposite direction for about 85% of the statements) for the other half. This constituted the perceived similarity manipulation. Since the Ss knew little about their partners, showing the Scale was justified, "to give you an impression of the person you'll be working with." The Ss were asked not to discuss what they saw in the Attitude Scale at any time during the experiment.

Procedures

During recruitment students were told only that this was a study of dyadic interaction. Volunteers were invited in pairs to the laboratory and led into separate rooms. After studying the task problem Ss joined each other in the "studio," in plain armless chairs, 2.5 feet apart. A full face medium close shot of each student was videotaped (Goldstein, Kilroy, & Van de Voort, 1976),

using a split-screen technique (Stephenson et al., 1972). No time limit was imposed, and interactions lasted from 3.7 to 25.6 minutes, with a mean of 12.5 (median 11.2).

Once the students agreed on a solution or agreed to disagree, they completed the AA Descriptive List (AADL; Jacobs, 1973) and the Perceived Confirmation Inventory (PCI; Jacobs, 1973).

Dependent Variables

Confirmation was coded in six categories (Sieburg, 1969; Jacobs, 1973; Figure 1). Inter-coder reliability yielded $r = .98$ (p .001) with $N = 22$ (three-minute units), and $r = .94$ ($p < .001$) with $N = 66$ (one-minute units). A coding manual was prepared, based on Sieburg's basic paradigm. Confirmation categories were weighted arbitrarily to recognize intensity levels: affiliation and imperviousness by 3, inhibiting and furthering by 2, and disaffiliation, awareness and non-furthering by 1. The coding sheet was a grid of six columns (categories) and three rows (times 1 to 3, i.e., the second minute, the middle minute, and the one-but-last minute). Disconfirmation scores were negatively valued. Scores were obtained for: Gross Confirmation, number of all confirming behaviors; Disconfirmation, all disconfirmation behaviors; and Net Confirmation, Gross Confirmation minus Disconfirmation.

Looking and speaking were recorded on an event recorder and defined as in Stephenson et al. (1972): "visual behavior which elicits the 'face reaction,'" and "periods of talking or 'holding the floor' (which incorporate temporary pauses during which the listener's attention is raised)" (p. 253). Two observers, one for each of the Ss, coded the videotapes simultaneously. The following measures were obtained:

1. Looking.
2. Mutual gaze.
3. Mutual gaze speaking (duration).
4. Mutual gaze not speaking (duration).

5. Mean length of mutual gaze.
6. Mean length of mutual gaze speaking.
7. Mean length of mutual gaze not speaking.
8. Mean length of gaze.

Unit of Analysis

The question of unit of analysis had to be answered on two levels: (1) what part of the interaction to analyze, and (2) what units to use within that part.

(1) Due to the different interaction lengths, proportions had to be used. The choice was between proportion in a time sample and in the whole interaction. A time sample would allow testing for possible development in confirmation over time: although durations involved were brief (the longest was 25.6 minutes), it was considered worth while to test the effect of time on confirmation. A sample consisting of one minute after the beginning (to allow initial social ritual conversation), one from the middle, and one minute before the conclusion (to allow time for leave taking) was seen as appropriate (Knapp et al., 1973). A correlation was computed between average confirmation per minute for the interaction and the average per minute for the three minute sample. With $N = 14$, $r = .56$ was obtained ($p < .03$). Although only moderate, the correlation was significant enough to warrant using the time sample.

(2) The "within" unit of analysis had to be short enough to yield some frequency, yet long enough not to lose the critical behavior by "sifting." Another time sample (e.g., every 10 seconds) seemed too arbitrary--verbal confirmation does not happen in a flash, it takes time. The utterance--a complete thought--was chosen as unit of analysis. This might coincide with turn taking, but might also run across several turns. Back channel responses (Duncan & Fiske, 1977) were not considered interruptions (disconfirming), in distinction from turn beginnings, unless they were unequivocally negative

evaluative. These responses are either attention signals or "point granting" or assenting signals (Kendon, 1967, in Duncan & Fiske, 1977). The latter authors see five forms of back-channel responses: (a) m-hm, (b) sentence completion, (c) request for clarification, (d) brief restatement, and (e) head nods and shakes (pp. 201-202). The first four were in most cases classified as confirming. The fifth, which could be confirming or disconfirming, was not analyzed, although it does have its place among indices of confirmation.

Results and Discussion

The results reported in this section deal first with hypotheses arising from reciprocity/compensation, and then with those stemming from similarity/dissimilarity, as they affect confirmation/disconfirmation.

Hypothesis I. The hypothesis predicted a significant positive correlation between confirmation scores of dyadic partners. The hypothesis was supported by a correlational analysis of Net Confirmation of dyadic partners ($r = .41$, $t = 5.35$, $df = 142$, $p = .001$). This supports the reciprocity principle. The more a subject confirmed his partner, the more the subject confirmed him. Confirming behavior corroborates much previous research in self-disclosure. Openness to another is correlated with openness of the other.

Hypothesis II. A significant positive correlation was predicted between disconfirmation scores of dyadic partners. Results of a correlational analysis support the hypothesis and the reciprocity principle ($r = .38$; $t = 5.005$, $p = .001$). In disconfirmation as in confirmation, the more one gives the more one gets. This too is in line with self disclosure research, in which reciprocity emerged as the governing principle in verbal intimacy.

The results reported so far support the reciprocity principle (hypotheses I, II). To examine the relationship between verbal confirmation and looking

(research question 1), and the co-occurrence of verbal reciprocity and nonverbal compensation (research question 2), additional analyses were undertaken.

Research Question 1. A correlational analysis revealed small but significant correlations between Looking, Looking Not Speaking, Looking Speaking and MG on one hand, and Net Confirmation and Disconfirmation on the other. Coefficients and probability levels are shown in Table 1. The more a person confirmed or disconfirmed his partner, the more was he looking at him, both while speaking and while not speaking, and the more MG they had. If this is true, and if as we have seen verbal confirmation and disconfirmation are reciprocal, one is tempted to extrapolate that looking is reciprocal too.

Insert Table 1 about here

Correlations were sought between dyadic partners on looking behaviors. We analyzed Looking, Looking Not Speaking, Looking Speaking and MG. Table 2 gives coefficients of correlation between the four variables for all subjects, and Table 3 shows correlations on the same variables between dyad partners.

Insert Tables 2 and 3 about here

It is clear from Tables 2 and 3 that: (1) (as was expected) looking behaviors are correlated, and (2) there is no reciprocity in the looking of partners, but (3) in some cases compensation is indicated. In Looking there is no correlation worth mention, but Looking Speaking and Looking Not Speaking are of more interest: the more A looked at his partner B, both while speaking and while not speaking, the less B looked at A while he, B, was speaking and while not speaking.

Research Question 2. Combined with the information obtained earlier, that verbal confirmation and disconfirmation are reciprocal, this finding means that

while subjects were reciprocating on the verbal modality, they were compensating nonverbally (looking less at partner while being looked at more) both when speaking and when not speaking. We thus have a clear example of interaction in which the verbal and nonverbal modalities are operating in opposite directions, governed by the opposing principles reciprocity and compensation simultaneously. While not related to the hypotheses offered, this evidence confirms the validity of the research question on co-occurrence of reciprocity and compensation.

Although significant, the reported correlations (Tables 1, 2, & 3), are slight. For example, Looking Not Speaking of A and B ($r = .2341$) gives a coefficient of determination $r^2 = .0548$. The correlation accounts for only five percent of the variance. The results are nevertheless interesting. Previous research has amply documented reciprocity and compensation in their separate verbal and nonverbal domains, but the present results give a picture of the interaction between the verbal and nonverbal modalities. No matter whether a person is confirmed or disconfirmed, he/she decreases gaze while not speaking when looked at by a not-speaking other. The same is true when the person and the partner are speaking. Verbal confirmation (positive or negative) is independent of looking. If A is confirming B and looking more, B confirms but looks less, reducing intimacy nonverbally while reciprocating verbally. If A disconfirms B verbally and at the same time looks at him more (we recall the different functions of expressive gaze, approach and affiliation, but also control and challenge; Kendon, 1977), B reciprocates verbally by disconfirming, and at the same time compensates by looking less. In short, we have verbal reciprocity simultaneously with nonverbal compensation.

The first two hypotheses and the research questions have been discussed, we turn to the remaining hypotheses.

Hypothesis III. The hypothesis suggested more confirmation in Similar Attitudes (SA) than in Different Attitudes (DA). Results do not support it. In none of the verbal measures of confirmation (Gross Confirmation, Net Confirmation, and Disconfirmation) did the Similarity variable have any effect. Contrary to expectations, confirmation cannot be equated with self-disclosure. While disclosure has been more intimate to a likeable other than to an unlikeable one (Jourard & Friedman, 1970; Worthy, Gary & Kahn, 1969) and while a link between similarity and liking has been established (Byrne, 1961), the same cannot be said for confirmation. Perhaps confirmation, unlike self-disclosure, depends more on the person than on the other, the situation, or the context. It is reasonable to assume that "What" one tells depends on "Whom" one tells it to more than how much one confirms.

Hypothesis IV. The above reason may also explain the failure of results to support the hypothesis that more disconfirmation will be given under DA than under SA.

Hypothesis V. The hypothesis predicts more gaze and MG under SA than under DA, and it was not supported. Several analyses revealed significant differences in the direction opposite the hypothesis.

Analysis of variance of Mean Length of MG showed main effect Similarity ($F = 10.76$, df 1/ 94, $p = .001$) and interaction effect Similarity by Time ($F = 5.29$, df 2/188, $p = .040$; Figure 1 and Table 4). But as the table shows, DA means were higher and the hypothesis remains unsupported. The simple effects test (Table 4) shows differences in Mean Length of MG between SA and DA were significant at Time 2 ($p = .000$) and Time 3 ($p = .037$), but not at Time 1 ($p = .152$)

Insert Table 4 about here

MG had main effect Similarity ($F = 6.70$, df 1/94, $p = .011$) and an almost significant Similarity by Time interaction ($F = 3.02$, df 2/188, $p = .051$; Figure 2). But the mean MG for SA across Time was 5.8 seconds, while the DA mean was 9.4. A simple effects test, summarized in Table 5, shows the difference between the means of SA and DA was significant at Times 2 and 3.

Insert Table 5 about here

The analysis of MG Not Speaking gave much the same results. It showed a significant main effect Similarity ($F = 5.38$, df 1/94, $p = .0230$), but the means were again opposite the hypothesis: 1.13 seconds for SA and 2.30 for DA. Table 6 summarizes the simple effects test. A significant difference occurred at Times 2 and 3.

Insert Table 6 about here

Other analyses showed no significant main effect Similarity or Condition, including Mean Length MG Speaking (Similarity $F = 2.84$, df 1/94, $p = .099$; Similarity by Time interaction $F = 5.25$, df 2/188, $p = .007$); also among these analyses were Mean Length of Gaze; Mean Length of Mutual Gaze Not Speaking; Looking (Time main effect $F = 2.87$, df 2/188 $p = .064$); and MG Speaking. To repeat, results do not support hypothesis V.

These results contradict much previous research, which found more gaze with liking and less with not liking (Cook, 1977; Exline & Winters, 1966; Argyle & Cook, 1976). Efran (1970) who used Byrne's (1969) attitude-similarity data, found in one study a weak relationship between attitude similarity and gaze, and in another study no relationship at all (cited in Argyle & Cook, 1976, p. 59). Exline and Winters point out in their second experiment (1966)

that looking increased probably as a result of expression of preference and not of preference itself (half-way through the experiment they asked Ss to express a preference for one of two confederates; cited in Argyle & Cook, 1976, p. 60). These writers further report that Jaspars et al. (1974) "used the Strongman-Champness formula to correct for the expected MG, and found no greater amount of surplus MG when people liked each other" (p. 62). These citations support the results in the present study. How much liking was generated by the bogus questionnaire cannot be established from our data. But even with liking presumably present, there was no more MG when people liked each other. Ss did not express preference or liking for the partner before or during their interaction (the AADL and PCI were completed after the experiment). Exline's explanation can perhaps be applied here too. However, we still have to explain why the DA had greater MG than the SA. It seems that MG was used for monitoring, evaluating and regulating, rather than as a reward for being liked or an expression of liking. It seems that the DA looked more in order to check, verify or change impressions gleaned from the questionnaire, to see "what kind of person" they have to face. The SA knew the partner had similar attitudes and did not need to monitor as much. Both in Mean Length of MG and in MG (Figures 1 & 2) SA Ss decreased length of gaze from Time 1 to Time 2, then increased it somewhat to Time 3. The DA had the opposite pattern: gaze length increased from Time 1 to Time 2, and decreased somewhat to Time 3. This exemplifies what Kendon (1967) calls the "regulatory function" of gaze direction: gaze functions as a signal of intentions and expectations ". . . in looking away for a moment before p begins a long utterance, p effectively signals to q that he is about to speak, and where q has been looking to him for a response of this kind, it provides q with an indication that his 'offer of the floor' has been accepted. And likewise, in the sustained gaze with which long

utterances are so often ended, p effectively indicates to q that he is coming to an end, and that he expects some response from him" (pp. 47-48). P's regulatory gaze can also control q's behavior: p can forestall a response from q by not looking at him, or he can increase his demand for a response by looking. It seems that in the present experiment gaze was used more in its regulatory function than in its "expressive" function of manifesting feeling and attitude. The situation had the constraint of the task to be accomplished (together), and was different from the typical interview or "get acquainted" conversation, frequently used in the study of gaze, where free expression of feeling and attitude is natural. Similarity therefore (and thus liking) did not affect gaze in the expected way.

It has been customarily assumed that similarity produces liking in a unidirectional way. There is, however, another way of looking at the phenomenon: gaze may be used as a means for increasing affiliation or attachment. Thus it is reasonable to assume that the DA, whose need for affiliation was not fulfilled (i.e., dissimilar attitudes), offered more gaze precisely in order to make contact under the constraint of having to work together. The SA, who already had something in common with their partner, did not need additional gaze, and so for them the constraint of the experimental situation, requiring joint work, did not produce more gaze.

Perhaps the difference in similarity's effect on gaze (i.e., on attraction, as Argyle & Dean, 1965, have shown) derives from a basic methodological difference between the present study and those of Byrne and his associates. In past studies similarity was perceived and attraction expressed almost exclusively with paper and pencil; in the present study, similarity on paper could be validated and attraction was expressed in real interaction. Byrne, Revin, and Lambeth (1970) suggested continuity between experimental study of

attraction and a real-life "computer dating" experiment. Their results showed attraction was significantly related to similarity (again, the paper-and-pencil variety) and to physical attractiveness. But Curry and Kenny (1974) studied attraction in natural living groups, in a longitudinal study (8 weeks); they concluded that "the magnitude of the effects of the value and personality similarity on the attractions found in the natural setting were not nearly as pronounced as those reported by Byrne and his associates in the laboratory studies (p. 27).

When Ss have only written information about, and no interaction with, others, they'll respond in predictable ways. But the interaction in the present study provided, as Curry & Kenney (p. 40) explain: (1) a much greater amount of information about the stranger, subject to one's own construction and misperception; (2) many more bases of similarity and dissimilarity; (3) rewards and punishment in the interaction, affecting attractiveness; and, less applicable to our study than to Curry and Kenny's, (4) a social structure that may pose limits and channels on attractions that may form. Thus, impressions formed from the Attitude Scale may have been confirmed and disconfirmed by the multiple cues presented during the problem-solving interaction, contributing to the decreased strength of the effect of similarity. We may conclude with Cushman and Craig (1976, p. 38) that similarity of values may be a poorer predictor of attraction in real-life setting than laboratory studies have led us to believe.

The real-life vs. laboratory explanation does not, however, cover the reversal of direction in similarity's effect on gaze. The investigators cannot now offer any better explanation than the following, drawing from Bakan (1966). He uses "agency" and "communion" to denote "two fundamental modalities in the existence of living forms." He writes that he uses the terms:

> agency for the existence of an organism as an individual, and communion for the participation of the individual in some larger organism of which the individual is a part. Agency manifests itself in self-perception, self-assertion, and self-expansion; communion manifests itself in the sense of being at one with other organisms. Agency manifests itself in isolation, alienation, and aloneness; communion in contact, openness, and union. Agency manifests itself in the urge to master; communion in noncontractual cooperation. (p. 18)

Bakan develops the idea that the human male is more agentic, and the female is characterized more by communion. Of special interest here is the distinction Bakan makes between the sexes in terms of perception. In his interaction with the world, the male relies more on vision, while the female, oriented toward intuition and relationship, relies more on the auditory.

> Verbal images are much more important in internal perception. We might recall at this point the observations that auditory is more important than visual perception in female as contrasted with male sexuality. (p. 172)

> . . . vision is much more closely related to the agentic, that the ego, as Freud put it, wears an auditory lobe only crooked. (p. 218)

The idea is suggested that visual perception is more agentic, auditory perception more communional. Gaze is therefore used more when the agentic is dominant, as a tool of dominance and control, while auditory perception leans toward internalization and union. This explains the "unexpected" results in the gaze behaviors mentioned (cf. Figures 1 and 2): the DA look more than the SA. It is the agentic, not the communion, quality of gaze that is used by the DA subjects. Contrary to hitherto prevailing understanding, gaze here seems to be more regulatory than expressive, to use Kendon's (1977) terms, more a mechanism of control than an indicator of affect.

Conclusion

This study showed that verbal confirmation and disconfirmation are reciprocal (hypotheses I & II); that verbal confirmation and gaze are slightly but positively and significantly related (research question 1);

and that reciprocity (on verbal confirmation) and compensation (on gaze) do co-occur (research question 2).

The remaining three hypotheses were not supported. SA Ss did not confirm more than DA Ss (hypothesis III), nor did DA Ss disconfirm more thatn SA Ss (hypothesis IV). As to gaze, results contradicted the hypothesis (V): Ss gave more gaze (approaching significance) when in the DA condition than when in SA, and had significantly more MG.

Three possible explanations were offered for this discrepancy:

(1) Similarity actually decreased attraction (as measured by gaze). Or more likely:

(2) Gaze did not express attraction but functioned as a mechanism of control; and

(3) The agency aspect of personality (control, regulation, feed-back monitoring) overcame the communio aspect (approach, liking, union).

These possibilities may of course only explain the What and not the Why; the latter must remain the subject for another study.

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Table 1

CORRELATIONS BETWEEN VERBAL CONFIRMATION AND DISCONFIRMATION AND LOOKING, LOOKING NOT SPEAKING, LOOKING SPEAKING AND MG

	Net Confirmation			Disconfirmation		
Variable	r	N	p[a]	r	N	p
Looking	.3221	288[b]	.001	-.2597[c]	288	.001
Looking Not Speaking	.2906	288	.001	-.1666	288	.002
Looking Speaking	.1348	288	.011	-.2076	288	.001
MG	.2153	288	.001	-.2606	288	.001

a) One-tailed.

b) Each oneOminute unit is treated as a case.

c) Negative sign for correlations with Disconfirmation, because Disconfirmation is coded as negative. The correlation is actually positive.

Table 2

CORRELATIONS BETWEEN LOOKING, LOOKING NOT SPEAKING

LOOKING SPEAKING, AND MUTUAL GAZE

Variable	Looking	Looking Not Speaking	Looking Speaking	Mutual Gaze
Looking	1.000	.8184*	.5410*	.7750*
Looking Not Speaking		1.0000	-.0406[a)]	.6005*
Looking Speaking			1.0000	.4686*
Mutual Gaze				1.0000

*Significant at .001 (N=288).

a) p = .246 (n.s.).

Table 3

CORRELATIONS BETWEEN DYADIC PARTNERS ON LOOKING, LOOKING NOT SPEAKING, AND LOOKING SPEAKING

		Looking		Looking Not Speaking		Looking Speaking	
		A	B	A	B	A	B
Looking	A	1.0000	.1030 (.110)[a]	.8596 (.001)*	-.0724 (.194)	.3217 (.001)*	.2531 (.001)*
	B		1.0000	.0296	.7589	.1424	.4254
Looking Not Speaking	A			1.0000	-.2341 (.002)*	-.2074 (.006)*	.3691 (.001)*
	B				1.0000	.2951 (.001)*	-.2665 (.001)*
Looking Speaking	A					1.0000	-.1994 (.008)*
	B						1.0000

a) Figures in parentheses show probability.

* Significant at better than .05 (N=144).

Table 4

MEANS AND SIMPLE EFFECTS FOR MEAN LENGTH OF MG BY SIMILARITY OVER TIME

Time	SA	DA	t-value	df	probability[a)]
1	1.2258	1.5773	-1.44	94	.152
2	0.8735	1.7160	-4.79	94	.000*
3	1.0518	1.3770	-1.81	94	.037*

a) Two-tailed.

* Significant at .05.

Table 5

MUTUAL GAZE BY SIMILARITY OVER TIME

AND SIMPLE EFFECTS

Time	SA	DA	t-value	df	probability[a)]
1	6.9583	8.6771	-1.11	94	.271
2	5.2500	10.0938	-3.26	94	.002*
3	5.3229	9.4583	-2.38	94	.019*

a) Two-tailed.

* Significant at better than .05.

Table 6

MUTUAL GAZE NOT SPEAKING BY SIMILARITY

OVER TIME AND SIMPLE EFFECTS

Time	SA	DA	t-value	df	probability[a)]
1	1.9583	2.4167	-0.61	94	.541
2	1.1292	1.6917	-2.61	94	.010*
3	0.8125	2.2500	-2.77	94	.007*

a) Two-tailed.

* Significant at better than .05.

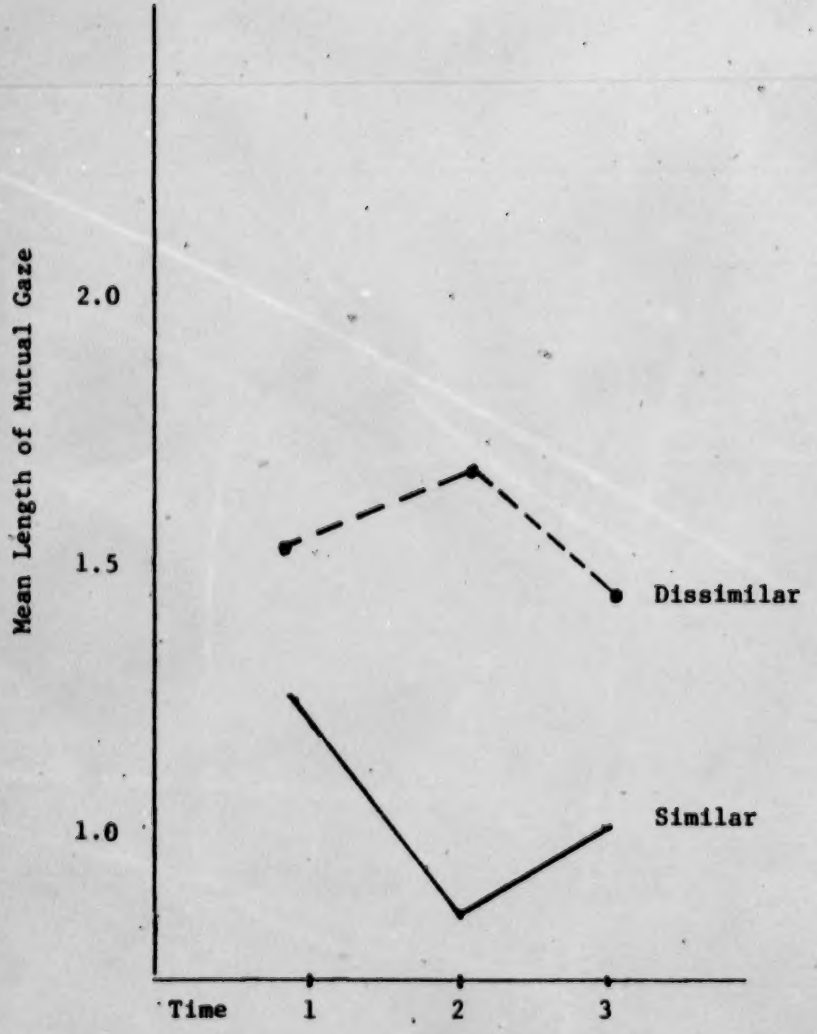

Figure 1. Mean Length of Mutual Gaze by Similarity Over Time

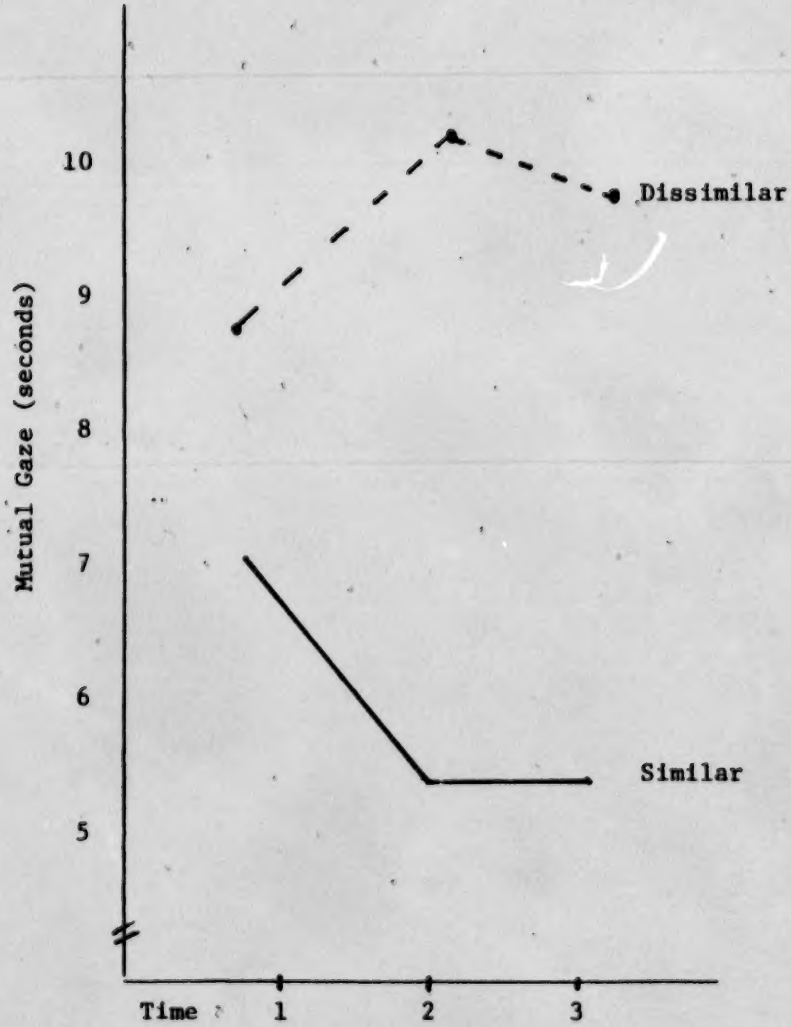

Figure 2. Mutual Gaze by Similarity Over Time